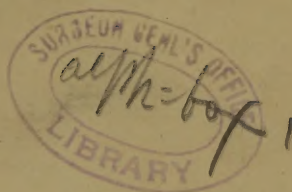


Yandell (L. P.)

Remarks on Dyspepsia.

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ART. II.—*Remarks on Dyspepsia.* By LUNSFORD R. YAN-
DELL, M. D. Read to the Lexington Medical Society,
December 12th, 1834.

IN many respects dyspepsia has claims upon the attention of the physician above most other diseases. If the suffering it inflicts is not so acute, it is unusually protracted. Extending itself from the stomach, every organ of the body becomes affected by it. The heart is seized with palpitations; phthisis involves the lungs; the liver is disturbed; the bowels are constipated; sick head-ache, dizziness, dimness of vision, and similar affections show the radiation of the morbid influence toward the brain; the muscles diminish in size, and grow sluggish and feeble. The anguish of mind is not less intense, and aggravates the sufferings of the body. The life of the dyspeptic invalid thus becomes a *long disease*.

The earliest writers on medicine treat largely of dyspepsia, and its kindred affections, melancholy and hypochondriasis. Hippocrates displays his usual judgment and accurate observation, in his remarks on the disease. The picture drawn by Aretæus of the sufferings of the dyspeptic patient, has not been improved by subsequent writers. "The stomach," says this elegant writer, in his chapter on the affections of that organ, "is the great cause of pleasure and inquietude. When its action is perfect, and the digestion easy, firmness and elasticity of fibre, and a ruddy complexion indicate health. The contrary happens when the stomach is disquieted. Then there is aversion to food, not only when it is placed on the table, but to the very thought of it, and dejection of mind is the consequence of insufficient nourishment; nausea, anxiety, collections of fluid in the stomach, and cardialgia ensue, with an increased flow of saliva, and occasionally vomiting. The suffering of the body, great while the stomach remains empty, is increased when necessity has required food to be taken, which is masticated with aversion, and swallowed with still greater disgust. Dimness of sight,

See, *Transylv. J. M.*, Lexington, Ky.,
1834, VII, 493-532. corresponds but
not named alike.

tingling of the ears, and heaviness of the head take place, with torpor of the limbs, feebleness of the extremities, and sensations of palpitation about the præcordia, more intolerable than hunger. Patients feel themselves agitated, and as it were driven to and fro, like reeds or trees by a gust of wind; they are sleepless, though heavy, and ready to fall asleep in a state resembling coma; they are meagre, pale, languid, deprived of strength, inactive, inanimate and indolent, but suddenly excited to anger."*

Cullen enumerates among the causes of dyspepsia, sedative or narcotic substances taken into the stomach, such as tea, coffee, tobacco, ardent spirits, opium, &c., frequent surfeits, or immoderate repletion of the stomach, frequent vomiting, drinking of warm watery fluids, and the very frequent rejection of saliva, which act immediately upon the stomach; and intense study, disorderly passions, an indolent and sedentary life, *intemperatum aut intempestivum usum veneris*, &c., which acting upon the whole body, or particular parts of it, yet are felt chiefly in the stomach. Aretæus, in the chapter just referred to, says, "it attacks those who from necessity have lived on thin and spare diet, and those of laborious and patient erudition, who are so absorbed in the precepts and practice of philosophy as to hold in contempt a plenty and variety of nourishment. They never change the scene, or take exercise, or indulge in any relaxation of mind; their love of learning detaches them from every other consideration—from their country, their parents, their kindred, from themselves, for the whole of their lives. Their whole frame becomes tabid. Pale and wan, in youth, they have all the infirmities of age; their minds, from being incessantly exerted in deep thought and meditation, become fickle and enervated: their severity of temper prohibits any indulgence in cheerfulness, and laughter and mirth are strangers to them."

It may be doubted whether Cullen's first class of causes is operative to the extent which he supposed. A fit of indigestion may be produced in a healthy person by a hearty

* *De causis et signis morborum.* Lib. 2, Cap. 6.

meal, especially of acescent food, but it passes off in a short time, and does not deserve the name of dyspepsia. So warm watery fluids may produce acidity, flatulence, &c. in a healthy stomach, taken along with other food, but the disturbance is temporary, and wholly unlike the disease under consideration. Tea and coffee have become the universal beverage of most civilized nations, and yet of the millions who drink them, comparatively a small number are troubled with dyspepsia. That they are pernicious in certain cases, and that they may be used to excess, is certainly true. Aided by other causes, they may induce the disease, or aggravate its symptoms when brought on. Constipation is one of the most common attendants on dyspepsia, and these liquids tend to increase it. They also augment the nervousness of such patients, produce sleeplessness, and thus add to the debility of the system. But employed by persons in good health, who take the necessary exercise, and observe all other rules necessary to health, it is not probable that they ever give rise to dyspepsia. Beaumont, it is true, found that the digestion of his patient, St. Martin, was less prompt when coffee formed a part of his meal; but this only proves that it is less digestible than some other things. Many persons find it necessary to digestion. To most who use it, it is a grateful cordial, unattended by any unpleasant consequences.

Of ardent spirits the same cannot be said. They are decidedly and unequivocally injurious. They perhaps never fail to give offence to the healthy stomach, and their daily, protracted use is a source of multiplied disease. Such is the experience of all the profession. Dr. Beaumont found that they deranged the stomach of his patient, rendering its villous coat red and irritable, inclining to dryness, the tongue becoming covered at the same time with a whitish coat. Hence his 13th corollary, "that the use of *ardent spirits* always produces disease of the stomach, if persevered in."

The use of tobacco is likewise pernicious. Certain constitutions are seriously affected by it, vertigo, nausea, vomiting and prostration of strength following its use. Such are

obliged to abstain from it. But there is a larger class whose health is reached so insidiously and slowly by this narcotic, that they overlook it as the cause of their indisposition. In these, it produces occasional nausea, headache, uneasiness and a sense of sinking about the *scrobiculus cordis*, thirst, nervousness, and constipation; or the symptoms may be more aggravated, and dyspepsia in its most distressing form may ensue. The writer knew a gentleman in whom dyspepsia, and hypochondriasis, of the highest grade, were made worse by the use of tobacco, if they were not brought on by it. The individual was of studious and sedentary habits, careful in diet, and of a regular mode of life. He swallowed his saliva, containing the active properties of the weed. His head was painfully affected, appetite variable, generally deficient, bowels costive, and his mind so much oppressed, that he entertained the most awful apprehensions of losing his reason.

In his *Materia Medica*, Cullen relates a case evincing the deleterious influence of this narcotic. "I have found," says he, "all the symptoms of dyspepsia produced by snuffing, and particularly pains of the stomach occurring every day. The dependence of these upon the use of snuff became very evident from hence, that upon an accidental interruption of snuffing for some days these pains did not occur; but upon a return to snuffing the pains also recurred; and this alternation of pains of the stomach and of snuffing having occurred again, the snuff was entirely laid aside, and the pains did not occur for many months afterwards, nor, so far as I know, for the rest of life."*

The earlier writers who notice tobacco, held, very correctly, that its use should not extend beyond the pharmacopœia. As a medicine, it was extolled, but they deprecated the abuse of it in the most earnest manner. Burton, in his peculiar style, thus denounces it. "Tobacco, divine, rare, super-excellent tobacco, which goes far beyond all their panaceas, potable gold, and philosophers stones, a sovereign remedy to all diseases. A good vomit, I confess, a virtuous herb, if it

* *Mat. Med.* vol. ii, p. 275.

be well qualified, opportunely taken, and medicinally used; but, as it is commonly abused by most men, which take it as tinkers do ale, 'tis a plague, a mischief, a violent purger of goods, lands, *health*, hellish, divilish tobacco, the ruine and overthrow of body and soul."*

The "thin and spare diet" of Aretæus cannot be considered a frequent cause of dyspepsia in this country, nor probably in any other. Most writers attribute it to a diet of an opposite kind. "Paulus Jovius," says Burton in his *Anatomy of Melancholy*, "observes that there was of old no use of physick amongst us, and but little at this day, except it be for a few nice idle citizens, surfeiting courtiers, and stall-fed gentlemen lubbers. The country people use kitchen physick."

It probably does not add to the evil of his pursuit, that the student "holds in contempt a variety of nourishment." On the contrary, it will appear from what follows, that the abstemious are those who suffer least from literary pursuits. The early divines of New England were marvellous students, but enjoyed, a majority of them, sound health, and lived to an extreme age. As a body, they were as remarkable for their longevity, as their learning. Many of them studied from sixteen to eighteen hours a day, and kept up the practice for forty or fifty years. The older Mather was a preacher sixty-six years, and commonly spent sixteen hours each day in his study. He died at the age of eighty-five. His son was equally remarkable for his studious habits. In one year it is related by his biographer, he preached seventy-two sermons, kept sixty *fasts* and twenty vigils, and wrote fourteen books. Chauncy, one of the early presidents of Harvard College, a theologian and physician, profoundly versed in Latin, Greek and Hebrew, slept but little, but *fasted* and prayed enormously, and travelled beyond the boundaries of four score, still preaching and lecturing. A few of them, it is true, were not altogether free from the infirmities of the studious. Edwards, the author of the treatise on the Freedom of the Human Will, was a dyspeptic and a hypochondriac. He com-

* *Anatomy of Melancholy*. vol. ii, part 2. Memb. 2. Subsect. 2.

plained to the Trustees of New Jersey College, when invited to take charge of it as president, "that he had a constitution in many respects peculiarly unhappy, attended with flaccid solids, vapid, sily and scarce fluids, and a low tide of spirits; often occasioning a kind of childish weakness and contemptibleness of speech, presence and demeanor." But as their diet was simple and plain their lives passed in the most perfect quiet, and their minds undisturbed by corroding cares or angry passions, they bore up, generally in health, under an incredible amount of mental labor.

The German scholars of the present day afford a similar example. They remain so long inactive, we are informed, that they almost lose the use of their legs; yet by plain frugal diet, adapted to the nature of their pursuits, they maintain their health unimpaired, and reach an advanced age.

It is not then for the *want* of a plenty and variety of nourishment, but *because of it*, that the student suffers so severely in the prosecution of his delightful employment. Next to a life devoted to religion, which Bacon holds most favorable to longevity,* he places that spent in the cultivation of letters, philosophy and rhetoric—that philosophy especially, which invites to travel, and the study of natural objects, and which fills the mind with grand and elevated thoughts, as the study of astronomy, and the contemplation of heroic virtues.† Such studies, engaging the mind in agreeable and varied exercise, and diverting it from the perplexing cares of business, not too laborious, but pursued as inclination prompts, should, he maintains very justly, contribute to health, and length of days. Subtile, rigid, painful inquiries have a different effect. They weary and exhaust the spirit, and shorten life. Hence, he remarks, the loquacious oftenest live to grow old, their garrulity being evidence of light contemplation, by which the spirit is not vexed and consumed.‡

* Vita religiosa et in sacris videtur ad longævitatē facere. Sunt in hoc genere vitæ, otium; admiratio et contemplatio rerum divinarum; gaudia non sensualia; spes nobiles; metus salubres; mœrores dulces; denique renovationes continuæ per observantias, penitentias et expiationes; quæ omnia ad diuturnitatem vitæ potenter faciunt. Opera vol: x. Historia vitæ et mortis. p. 386.

† Ib. p. 387.

‡ Ib. p. 407.

But whatever may be the pleasures and advantages of study, when prosecuted judiciously and under favorable circumstances, it cannot be denied that the studious are generally victims to dyspepsia. Their sedentary habits enfeeble the whole system, and the stomach in common with the rest, induce constipation, and withhold from the stomach that amount of nervous influence necessary to digestion. While this is the case, the appetite is not restrained, and the quantity of food taken is disproportioned to the digestive powers. It results then, from what has been said, that the student, who expects to enjoy health in the ardent pursuit of knowledge, must indulge sparingly in the pleasures of the table. Two important organs cannot perform their functions vigorously at the same time. While the brain is active, the duties of the stomach must be lightened. The lower orders of animals sleep during the active period of digestion. The Indian, after one of his full meals, reposes from toil both of body and mind. The same may be said of other savage tribes, who guided in such affairs by instinct never err. Dr. Combe, in his work on the Preservation of Health, treats this subject with great clearness. "It seems to be a law" he remarks, "of the animal economy, that two classes of functions cannot be called into vigorous action at the same time, without one or other, or both, sooner or later sustaining injury. Hence the important rule, never to enter upon continued mental exertion, or to rouse deep feeling, immediately after a full meal, as the activity of the brain is sure to interfere with that of the stomach, and disorder its functions. Even in a perfectly healthy person, unwelcome news, sudden anxiety, or mental excitement, occurring after eating, will put an entire stop to digestion, and cause the stomach to loathe at the sight of food. In accordance with this, we learn by experience, that the worst forms of indigestion and nervous depression are those which arise from excessive application of mind, or turmoil of feeling, conjoined with unrestrained indulgence in the pleasures of the table. In such circumstances, the stomach and brain re-act upon and dis-

turb each other, till all the horrors of nervous disease make their unwelcome appearance, and render life miserable. Literary men and hard students know this fact from sad experience; but as they are not aware of the incompatibility of the two processes of active thinking and active digestion going on at the same time, it is extremely difficult to give them a sense of their danger, and to convince them that an hour, or an hour and a half, after a meal, is more profitably spent in easy relaxation than in the labour of composition. As regards the lower animals, indeed, we are careful enough to observe this organic law; for we do not allow our horses or dogs to be actively exercised till digestion is in some degree completed."

It should be remarked, that when the mind is goaded to unwonted exertions by artificial stimuli; or when the study is kept up at unseasonable hours, the mischief resulting from it is much increased. The life of Sir Humphrey Davy furnishes a melancholy example in point. "His intellectual exertions," remarks his biographer, "were of the most injurious kind, and yet, unlike the philosophers of old, he sought not to fortify himself by habits of temperance. Such was his great celebrity that persons of the highest rank contended for the honor of his company at dinner, and he did not possess sufficient resolution to resist the gratification thus afforded, although it generally happened that his pursuits in the laboratory were not suspended until the appointed dinner hour had passed. On his return in the evening, he resumed his chemical labors, and commonly continued them till three or four o'clock in the morning, and yet the servants of the establishment found that he had risen before them."*

We have here the combined influence of intense study, undue excitement, and excessive repletion, heightened by the want of the necessary amount of sleep. The result may be anticipated. His health failed him prematurely, and he died in the prime of life, of a lingering disease. Dr. Franklin recommended the hours of evening to be given to recre-

* Paris's Life of Sir H. Davy.

† Combe on the Preservation of Health, p. 237.

ation; certainly good advice for the literary invalid. The excitement of study, particularly if continued late, is unfavorable to that sound undisturbed sleep, without which the body is not refreshed and invigorated. The same opinion is expressed by the able writer just quoted. "Nature has allotted the darkness of night for repose, and the restoration by sleep of the exhausted energies of mind and body. If study or composition be ardently engaged in towards that period of the day, the increased action in the brain which always accompanies activity of mind, requires a long time to subside; and, if the individual be at all of an irritable habit of body, he will be sleepless for hours after going to bed, or perhaps be tormented by unpleasant dreams. If, notwithstanding, the practice be continued, the want of refreshing repose will ultimately induce a state of morbid irritability of the nervous system, not far distant from insanity. It is therefore of great advantage to engage in severe studies early in the day, and devote the two or three hours which precede bedtime to lighter reading, music, or amusing conversation. The vascular excitement previously induced in the head by study has then time to subside, and sound refreshing sleep is much more certainly obtained. This rule is of great consequence to those who are obliged to undergo much mental labour."*

Disorderly passions, Cullen classes among the causes of dyspepsia. Bacon also mentions them as fruitful sources of disorder, as he does the milder affections as contributing to health. Excessive joy, love gratified, distressing fear, and particularly envy, which he places at the head of the list, being, as he expresses it, "almost perpetual, neither holding any fast days," he regards as enemies to health. Others, generally regarded as noxious, he somewhat whimsically holds to be beneficial, as anger when not repressed, and grief unaccompanied by fear. Hope, he adds, of all the affections is most useful, and tends most to prolong life. It should, however, be remarked, that Bacon had a fanciful theory, by

* Combe on the Preservation of Health, p. 237--8.

which he estimated the influence of the various passions upon health. Anger, for example, when allowed vent, he considers a medicine, because it creates a strong heat; grief prolongs life, because, he imagines, it draws in the spirit, and is of the class of condensers; great joys attenuate and pour out the spirit, and therefore shorten life, while cheerfulness strengthens the spirit; mortification, the result of disgrace, especially if long felt, draws in the spirit, even to suffocation, and is therefore pernicious. On this account, his observations on this subject are less valuable. All the passions in excess, impair the tone of the stomach, and thus the general health. Hence, as remarked by Barry,* "more instances of long life are known in cloisters, and easy retirements, where the mind and body are agreeably, and indolently engaged, than among such, who are exercised in the more active and laborious scenes of life." The lives of those who devote themselves to the cultivation of the natural sciences, are longer than those of poets and politicians, for the same reason. The first are passed in tranquillity, or a state of gentle exhilaration favorable to health; the latter, in turmoil and feverish excitement, agitated by tumultuous passions; elated with brilliant success, or stung by bitter disappointment.

But in treating of the influence of the mind upon the stomach, we should not lose sight of the interesting fact, that the malignant passions, which we share with the lower animals, are more detrimental than those which belong peculiarly to man. 'The constant feeling of good will to all sheds a perpetual sunshine o'er the soul,' it has been said; in the light of which, the health of the body can hardly fail to prosper. The authority of Bacon has been quoted for the malign influence of envy, one of the most selfish of emotions. "If the higher feelings," says Combe in his work just referred to, "have the ascendancy, and the more selfish propensities be merely sufficiently active to give force to the character, without exciting contention in the mind itself, the ner-

* On the three Digestions and Discharges of the Human Body, p. 133.

vous influence is the most grateful and efficient, which can be imagined, for sustaining the healthy co-operation of the whole body. This result follows, because the Creator evidently designed such a state of mind to be the best and happiest for man himself, and therefore took care to surround him with every motive to induce him to enter into it.

"If, however, the lower feelings be in great activity, and the mind be at variance with itself, and filled with designs and emotions repulsive to our moral sentiments; or if it be oppressed with grief, anxiety, or remorse, the stimulus which it communicates, is far from beneficial, being no longer in accordance with the conditions designed by the Creator. It is in such circumstances, accordingly, that bad health is so often seen to arise from the state of the mind, and that suffering is produced, which no art can relieve till the primary cause be removed."*

The following case shows how completely the action of the stomach is suspended by a paroxysm of anger.—A hearty negro lad was about being whipped by his master, immediately after a full dinner. He resisted and made his escape foaming with rage. Twenty-four hours afterwards he was found labouring under convulsions, and a physician being called in who gave him an emetic, he threw up the articles undigested, which he had eaten the day before at dinner.

Professor Caldwell, in his work on Physical Education, treats ably of the influence of cerebral irritation upon the stomach. "The emperor Napoleon," he remarks, "died of a gastric affection, in St. Helena, where such complaints are scarcely known. He was, moreover, a very temperate eater. But he had deep sensibility and powerful passions." These, mortification at the loss of empire, resentment, chagrin, vexation and grief, goading his brain, and throwing their morbid influence upon the stomach, brought on that disease which destroyed him. The alarming prevalence of dyspepsia in the United States, this writer attributes to the intense

* On the Preservation of Health, p. 254--5.

excitement which the political institutions of the country awaken, and render almost unceasing.*

The experiments of physiologists prove, that a total suspension of the digestive process follows the loss of nervous connexion between the brain and the stomach. Sir W. Philip found that when he cut out a portion of the *par vagum*, in rabbits, the cabbage which they had eaten remained undigested. But passion, inordinate excitement and intense study, which expend the nervous power upon other parts, effect partially what is entirely accomplished by the section of the nerves of the stomach. It is deprived of one of the elements concerned in the secretion of gastric liquor, and consequently this solvent is either not formed, or is destitute of the proper activity. Tiedemann and Gmelin† suppose that the nerves of the stomach decompose the salts of the blood, liberating the acids which are instrumental in digestion. When the nervous influence was destroyed or impaired, they found the gastric juice alkaline rather than acid, and that digestion was imperfect. From which they infer, that when the nervous influence is not present, the salts of the blood are not decomposed, and consequently, that the acid menstruum is not generated. However this may be, there can be no doubt of the presence of acid in the stomach during the process of digestion, nor of its agency in it. Basil Valentine founded a theory of digestion upon this fact, and was perhaps the first chemist who essayed to explain the function upon chemical principles. Paracelsus received this opinion from him. Van Helmont carried it farther; and asserted that the spleen prepared this menstruum, which was from thence conveyed into the stomach by the *vasa brevia*. Beaumont detected an *acid* taste in the gastric juice, and analysis proved that it contained free muriatic acid, and probably others. Tiedemann and Gmelin detected in it, uniformly, muriatic, acetic and *butyric* acid; and they further found that these acids diluted so as to resemble the gastric juice in taste, effected a change in alimentary substances very similar to

* Thoughts on Physical Education, p. 94 et seq.

† Recherches sur la Digestion.

that observed in the first stage of digestion.* In order to produce this effect, it was only necessary to mix the substances, and preserve a temperature around them as high as that of the human body.—From all these facts, therefore, it is plain, that whatever diminishes the quantity of this menstruum, or impairs its activity, by enfeebling the nervous energy, or expending an undue portion of it upon other organs, must weaken the stomach and induce dyspepsia.

It is a common prejudice, that errors and excess in diet are the most frequent cause of dyspepsia. Persons already laboring under it, certainly find it necessary to be very circumspect in this particular, the slightest imprudence being followed oftentimes by much disturbance. But people in health live as they please, without inconvenience. Some nations gormandize habitually, and yet are unacquainted with dyspepsia. An Esquimaux will eat ten or twelve pounds of solid animal food, in the course of the day, swallowing along with it a gallon of oil, and digesting it all.† Children eat of every thing that tempts their palate, and are strangers to indigestion. Laboring men suffer no inconvenience from their hearty meals of plain, coarse food. The writer never knew a case of this complaint in a slave who worked in the field. Free from care, and invigorated by healthful toil, their stomachs readily assimilate whatever they swallow. The ancients well understood this principle. Cæsar had no dread of the “sleek-headed Antony,” whose ruddy complexion and full round body betokened sound digestion, and a mind unworn by care. He was a lover of ease and pleasure, of light contemplation, and a sound sleeper. Not so the pale and meagre Cassius. His sallow, care-worn countenance revealed to the sagacious conspirator an active and troubled spirit, that “looked quite through the deeds of men.”

It is therefore the student, who must regulate his diet by another rule than the calls of appetite. Horace gives a faithful picture of his troubles, goaded by hunger, and yet doubtful of the effect of his indulgence, in the following lines:

————— Vides ut pallidus omnis
Cœna desurgat dubia.

* *Recherches sur la Digestion.*

† Pary's Journal quoted by Dr. Caldwell.

His digestion varies. with his mental application and makes the regulation of his diet the more difficult. When his mind is unengaged, or excited by agreeable society, his stomach is vigorous, and his meals are followed by no unpleasant feelings. But when deeply engrossed in study, the power of digestion is nearly gone. "Persons so situated, when advised to attend to diet, often answer that it is in vain, and that, while at times nothing can be digested, at other times, perhaps within a few hours or days, nothing comes amiss,—the power of digestion varying thus quickly, according to their mental condition."*

The effect of sedentary habits, unconnected with study, is seen in the pale, sallow countenances, and relaxed muscles of that class of artizans whose employments confine them to the house, and require but little bodily exertion. They suffer many of the maladies of the literary invalid. The *morbi studiosorum*—the *infirmities of genius*, are their inheritance, without the glory and zest which genius gives to the lives of her sons. They are deprived of the benefits of free air and plenty of exercise, in consequence of which, the tone of the stomach is impaired; and yet they usually indulge their appetites as freely, as if their habits were laborious, sharpening them too often by stimulating drinks. Their pursuits, moreover, are monotonous, and the mind has nothing to keep it active, or excite it pleasurably. The system thus experiences the want of a most salutary stimulus, and indigestion can scarcely fail to result from the operation of all these causes. Hence the sedentary mechanic not unfrequently presents all the appearance of ill-health, of the sedentary student, contrasting so strikingly with the inhabitants of the country, "who live," as Bacon expresses it, "in the open air, not sluggish, but in motion, upon healthy food procured by themselves, free from care and envy."†

Of the causes of dyspepsia, the last to be mentioned is *malaria*, which Cullen does not include in his list. It would

* Combe on the Preservation of Health.

† Hist. Vit. et Mort. p. 387.

seem, in fact, that until recently, this agent has not attracted the attention of medical writers, as a very frequent cause of the complaint. Good, in his elaborate *Study of Medicine*, does not refer to it. Darwin over-looks it, and it is not noticed by Gregory in his *Practice*. MacCulloch states, that amid all the treatises, almost numberless, which have been written on dyspepsia, he has not found it treated of in any, as a miasmatic disease.* Several French writers mention it as being occasionally produced by malaria. In the insalubrious, or marshy situations in France and Italy, the writers of those countries state, it exists among the people, as a chronic and endemic disorder. So, also, in some of the districts of England, subject to malaria, we are informed by MacCulloch, dyspepsia is the general, and almost the only complaint of the mass of the common people.†

That malaria is a common cause of dyspepsia, this writer adds, "every man's observation may satisfy him: that it must be so, if the great glands are affected, which all writers on miasms admit, every one would anticipate." And he considers this view of the subject, as well as the diagnosis between the disease as commonly produced, and as originating in this cause, the more important, because the nature of the treatment must depend upon it. Simply varying the hour of eating, selecting that period of the day when the disease is absent, he has frequently found sufficient for a cure, in cases dependent upon malaria. While, if this fail, bark, quinine and arsenic are the remedies to be relied upon. Whereas, when produced by other causes, other plans of treatment must be resorted to.

Professor Cooke is very clear on this subject. "It frequently happens," he remarks, "during an epidemic fever, that numbers complain more or less of the identical symptoms enumerated in Cullen's definition above recited, viz: want of appetite, nausea, vomiting, inflation of the stomach eructations, rumination, or the rising of what has been

* MacCulloch on *Remittent and Intermittent Diseases*. p. 55.

† *Ibid* p. 73.

catch in the mouth, heartburn, pain in the stomach, costiveness. In many, febrile action comes on; in others, these symptoms continue lingering about them during the whole season, and sometimes they remain with them for years. In those cases in which fever supervenes, the same symptoms sometimes continue throughout the disease; and sometimes after the fever goes off, it leaves the patient as it found him, laboring under the same symptoms of disordered stomach. Indeed, as miasmata operate more extensively than any other remote cause of disease, a very great proportion of the cases which have occurred to me, have been produced by this cause, as may be observed when the cases are stated.”*

Thus, a man aged about thirty, of a firm frame, had very good health until he had an attack of autumnal fever. After his recovery, as it was called, he was severely affected with dyspepsia, for a long time. A young lady about twenty, had an autumnal fever, after which, she did not recover her appetite, and in a short time began to spit up her meals, and showed all the symptoms of dyspepsia. A man living near a mill-pond had an ague and fever; after recovering from the fever, continued pale—his stomach unable to take certain kinds of diet, first refusing coffee, and becoming more and more disordered.—Similar cases are added.†

These cases are conclusive, as to the occasional origin of dyspepsia in the same circumstances which give rise to bilious fever. What proportion such cases bear to those produced by other causes, it is difficult to determine. MacCulloch does not pretend to decide. Dr. Cooke believes it is very great—in fact, that miasm is the most prevalent cause of the complaint. Perhaps it will be found that the frequency of the disease in the United States, which Dr. Caldwell traces to moral causes, is owing, in a great degree, to the prevalence of miasmata in our atmosphere. It is certainly a subject to which the attention of practitioners should be directed. If extended observation should settle the question this way, the indications

* Treatise of Pathology and Therapeutics. vol. ii, p. 210.

† Op. citat. p. 213, et Seq.

of practice will be more clear. Nor can it be doubted, that medicines will be employed with greater success. Hitherto, few disorders have been submitted to a more empirical treatment, or managed with less satisfaction to the physician and patient.

The intermittent character of dyspepsia has been already alluded to. It abates or becomes aggravated without any assignable cause. In the midst of free indulgence, the patient will occasionally pass days of comfort, perfectly free from the complaint. And again, when guarding against it by the most cautious regimen, a paroxysm will overtake him. A day of high health may be followed by one of suffering, although both are passed alike, as to diet, occupation, exercise, and all things else that concern the body or mind. In this form, which I have most commonly met, diet seems to exercise but little control over it.

Now in all this, it bears a perfect analogy to miasmatic diseases, which are characteristic for their periods of increase, decline and intermission. The remission may continue for a week or a day, and the paroxysm may pass off in a few hours, or endure for several days. All such varieties are familiar to the observant practitioner. When this periodic character attaches to it, there can be no doubt of the class of affections to which it belongs; and the observation is valuable, since it points to the necessity of removing the patient, if practicable, from the district in which malaria abounds. It is also farther valuable, as it leads to the use of remedies, of established efficacy in the ordinary forms of intermittent diseases, but which, owing to erroneous views of the nature of dyspepsia, have not been extensively employed in it.

The treatment of dyspepsia may be divided into two kinds, *remedial* and *dietetic*. Most importance has generally been attached to the latter, in accordance with the prevalent notions of the cause of the disease. Much, no doubt, may be done by diet, towards the restoration of the health and vigor of the stomach, as there may also by exercise, by recreation of mind, &c., and the more, when the complaint is the re-

sult of sedentary, studious habits combined with excessive repletion; but it will be the object of a few following remarks to show, that dyspepsia, as it generally prevails in this country, is a disease for decisive medical treatment. "A discreet and godly physician," says an old writer, "doth first endeavour to expell a disease by medicinall diet, then by pure medicine."* In dyspepsia, the rule has been acted up to faithfully; and the sentiment which the same author expresses, in another aphorism, has had very general currency. "Who-soever takes much physic in his youth,," says he, "shall soon bewail it in his old age; purgative physic especially, which doth much debilitate nature." So another old writer on medicine has contributed to render the use of purgatives unpopular, in which he advises his patient to "take as few purges as he could, because there be no such medicines, *which do not steal away some of our strength, and rob the parts of our body, weaken nature, and cause that cacochyma*, which Celsus and others observe, or ill digestion, and bad juyce through all the parts of it." Galen himself wrote, that "purgative medicine is contrary to nature, takes away some of our best spirits, and consumes the very substance of our bodies."†

In such precepts, common in the writings of the earliest physicians, the popular prejudices against cathartic medicines took their rise. It is well known that as late as the time when Hamilton wrote on purgatives, such remedies were very generally distrusted, as exhausting the strength of the patient, and impairing his constitution. These opinions however, were not universal even among the earliest physicians. Hippocrates himself wrote a treatise on hellebore, a fragment of which has descended to us. He believed he could cure all diseases by this one remedy. One of the commentators on that passage of Galen, which has been quoted, remarks, that this is to be understood of such purges as are unseasonably or immoderately taken; they have their excellent use in this, (melancholy) as well as most other infirmities."

* *Arnoldus*, 3, Aphoris.

† *De Viet. Acut. Lib. 2.*

Cullen supposed the proximate cause of dyspepsia to be debility of the muscular fibres of the stomach. A change in the quality or quantity of the gastric fluid, he allowed might be an occasional, but less frequent cause. His treatment consisted in avoiding or removing the remote causes, already recited, in removing the symptoms which aggravate the disease, and in remedies to restore the tone of the stomach. He did not profess to understand the nature of the gastric juice, or the changes it might undergo, and consequently did not attempt to found any practical doctrine upon them. Much light has been shed upon these subjects since his day by the labors of physiologists. The elaborate experiments of Tiedemann and Gmelin have already been referred to. They establish the importance of healthy, acid gastric liquor to the process of digestion. Beaumont enjoyed the most favorable opportunities for investigating the agency of this fluid, and the condition of the stomach when affected by indigestion. Among other experiments, he removed a portion of food from the stomach of his patient, in a state of incipient digestion, and placing it in a phial on a sand bath, at the temperature of 100° (Fah.) found that digestion went on in it about as rapidly as in that remaining in the stomach.* This experiment was frequently repeated, and with the same result. He performed the following, which, as illustrating the nature of this fluid, is given in detail. "At 8 o'clock, A. M.—stomach empty—temperature 98°—took out two ounces gastric juice. Divided this into two equal parts, and put them into separate vials—to each of which I put equal quantities of roasted beef—placed one of them on the bath, at 99°, and the other in the open air, at 34°. I then put the same quantity of meat into an equal quantity of clear water, and placed it with the cold gastric juice and meat in the open air, at the same temperature. At 9 o'clock he had finished breakfasting on the same kind of meat, with the addition of warm light biscuit, butter, and a pint of coffee. Temperature of the stomach, immediately before eating, 100°. In thirty minutes after eating, the tempera-

* Experiments on the Gastric Juice. p. 142.

ture rose to 102°. Digestion rapidly advancing. At 10 o'clock—took out a portion, partially digested; the biscuit the most so of any part of the breakfast. Placed this on the bath. The meat, contained in the vial of gastric juice on the bath, was, at this time, in about the same condition as that taken from the stomach, very little difference could be perceived. The meat in the *cold* gastric juice was, at this time, much less advanced, than either that in the warm juice, or in the portion taken from the stomach. That contained in the vial of water was merely macerated.”*

At 10 o'clock 45' his breakfast was digested—the parcels in the gastric juice, on the bath, about half digested at 2 o'clock, and appearing not to progress. Gastric juice was drawn off and added, and digestion recommenced. The following were the appearances, after the several parcels had stood twenty-four hours, and grown cold. “The gastric portion, or that taken from the stomach, an hour after breakfast, was the most digested. The artificial, or that portion of the gastric juice and meat, first placed on the warm bath, was next, and nearly as much digested; though a difference was observable. The third, or portion of gastric juice and meat, first placed in a cool situation, after having been on the warm bath for six or eight hours, was the next, but considerably less digested than the second. The fourth, or aqueous portion, exhibited no appearance of chymification.”†

These results correspond with those obtained by Spallanzani,‡ and prove the solvent powers of the gastric juice. When this fluid is impaired in quality, or deficient in quantity indigestion must be the consequence. That it is deficient in indigestion, Beaumont had frequent opportunities of seeing. On one occasion he states, on introducing the tube he could obtain no gastric juice. “A little acid fluid and frothy mucus only, could be extracted. Villous membrane red and dry. St. Martin complained of some head-ache, pain and distress about the *scrobiculus cordis*, lassitude and loss of appetite.”||

* Experiments &c. p. 149, et seq.

‡ Exper. sur la Digest.

† Experiments &c. p. 152.

|| Experiments &c. p. 137,

On another occasion, when the patient complained of distress at the stomach, and pain in the head, accompanied with costiveness, a depressed pulse, dry skin, and coated tongue, he saw "numerous white spots, or pustules, resembling coagulated lymph, spread over the inner surface of the stomach."^{*}

From all these facts it is pretty clear, that Cullen's theory of the proximate cause of dyspepsia, viz. debility of the muscular fibres of the stomach, is erroneous, and that the practice founded upon it is not calculated to succeed. It might palliate the symptoms, but this was the utmost it was likely to do. Nor were many of his remedies, since too generally prescribed, capable of even this, in certain conditions of the stomach. Perhaps no physician has not seen the complaint much aggravated by the untimely use of stimulants and tonics, given with the mistaken view of strengthening the digestive organs, and improving the tone of the general system. The uneasiness at the epigastrium, and general weakness are thus increased, by the remedies employed to relieve them. What else could be anticipated, in such a state of the stomach as that which has just been described?

This condition of the mucous lining of the stomach would seem to indicate a treatment chiefly dietetic, and Dr. James Johnson, adopting this view of the pathology of the disease, has recommended this plan with great earnestness, in his work on Morbid sensibility of the Stomach and Bowels. But it has not been found to afford the relief which might have been anticipated. It will not be denied that a mild unstimulating diet is the kind adapted to this condition of the stomach. The patient has but little appetite, and much food must increase the gastric disturbance. But diet cannot produce a positive effect. The utmost that it can do, is not to increase the morbid sensibility of the stomach, which by exercise, change of air and scene, and agreeable occupation of mind, may gradually be worn out. Cures are oftener thus effected when the disease has been induced by long devotion to study,

* Experiments, &c. p. 126.

or perplexing business. Travelling is well known to be eminently useful in such cases.

But the great majority of cases which present themselves in this country, whether occurring in the laboring classes, or among the sedentary and studious, demand something more than a regulation of diet. Costiveness is one of the most uniform symptoms of dyspepsia, alternating with the opposite extreme. This pointed out to the earliest physicians the necessity of regulating the bowels. Clysters were in repute among the ancients, as a remedy for melancholy, which is well known to be closely allied to dyspepsia. "I have found," says one of their writers, "by experience that many hypochondriacal melancholy men have been cured by the sole use of clysters." Hellebore, it has already been mentioned, was the favorite remedy of Hippocrates in this, and most other affections. Pliny relates,* that Melanpodius, a shepherd, having observed that it purged his goats, when they raved, was induced to administer it to the daughters of Prætus, who thereby were restored to health. Hercules is said to have been cured by a purge of hellebore, after having been long mad. And Carneades, the academic, when he was to write against Zeno, the Stoic, *first purged himself with hellebore*. Even Paracelsus extols it, as the sole and last refuge in hypochondriasis, which, if it does not cure, nothing will, but mineral remedies. A man in the court of the duke of Ferraras was cured by a single purge of it in substance. "*His excrements were like ink.*"† But the qualities of this plant not being well understood by the earlier physicians, which rendered it, as expressed by one of their writers, "a terrible purge and hard to take, unless given to strong men, and such as have able bodies,"‡ and being at best a drastic medicine, many, and Aristotle among the rest, regarded it as a poison. But the facts stated prove that it occasionally relieved by bringing away black bile.

Among the old writers, the same evidence may be found

* Lib. 25, Cap. 5.

† Burton Anat. Melan. vol. ii. p. 113.

‡ Ib. p. 112.

in favor of the preparations of antimony, which operated in the same way. "A parish priest, at Prague in Bohemia, was so far gone with melancholy, that he doted, and spake he knew not what; but after he had taken twelve grains of stibium,* (as I myself saw and can witness, for I was called to see this miraculous accident) he was purged of a deal of black choler, like little gobbets of flesh, and all his excrements were as black blood, (a medicine fitter for a horse than a man;) yet it did him so much good, that the next day he was perfectly cured."† Aloes is commended by Rhasis and Avicenna as "purging choler." And, finally, says Burton, "when you begin physick, persevere and continue in a course; for, as one observes, *movere et non educere in omnibus malum est*; to stir up the humours, (as one purge commonly doth,) and not to prosecute, doth more harm than good."‡

From all this it appears, that thus early, purgatives were held, by many practitioners, as highly useful in that class of disorders which they included in the term melancholy, and which, it is plain, generally had their origin in affections of the digestive organs. But the testimony of modern writers is more conclusive. Hamilton, Stone, Johnson, Philip, McCulloch, above all, Cooke, abound in facts establishing the value of this practice. Stone observes of calomel, "it instantly excites copious mucous secretion from the glands of the stomach, which contributes to dilute and wash away the offending acid, and a considerable portion of this medicine quickly passing the pylorus, augments the secretion of bile, the natural corrector of acid."|| Beaumont, who has so recently written on the subject, furnishes some interesting facts. At one time, when the subject of his experiments was laboring under indigestion, with pain and distress about the *scrobiculus cordis*, lassitude and loss of appetite, he gave him half an ounce of *tincture of aloes and myrrh*, which restored the gastric juice, and diminished the redness of the in-

* Antimony; but what preparation, it is difficult now to determine.

† Burton Anat. Melan. vol. iii. p. 108, quoting Dioscorides.

‡ Ib. p. 120.

|| On Diseases of the Stomach, &c. p. 170.

ner coat of the stomach. On another occasion, when the stomach of his patient was much disordered he says, "I thought it advisable to give medicine; and, accordingly, dropped into the stomach, through the aperture, half a dozen *calomel pills*, four or five grains each, which in about three hours, had a thorough cathartic effect, and removed all the foregoing symptoms, (depressed pulse, dry skin, foul tongue, head-ache, and distress at the stomach) *and the diseased appearance of the inner coat of the stomach.*"

Here is the most positive proof of the effect of calomel, in removing that condition of the stomach upon which dyspepsia depends. But, although the villous coat of that organ has not often been exposed, to exhibit the fact, the relief afforded by calomel in this disease, proves that its general effect is to remove this irritation. Calomel, therefore, in such circumstances, is a *lenitive*. Such has been my experience, in this disorder. I should say, that, as it prevails in those districts of country in which I have practiced, calomel alone, or in combination with other purgatives, is worth all other remedies prescribed in the disease. The most eligible mode of using it is in the form of pills, composed of two grains of calomel, aloes and rhubarb, each—one, two, or as many as may be necessary to move the bowels next day.* The discharges produced by this combination are usually yellow, tinged more or less with green, and consistent, producing some smarting as they pass. Occasionally, they are dark green, or black, as described in the case of the parish priest in Bohemia. The patient should have at least one such evacuation daily, and for most persons this is not sufficient. Mr. Locke, who was both a physician and a scholar, says, the student, in order to preserve his health, must see that he have two daily evacuations. This is perhaps more than a majority of persons in health have. Of the number necessary, the individual must judge by the effect upon his strength and feelings. If one passage give the stomach relief, and two debilitate him, he must take such

* See Treatise of Pathology and Therapeutics, by John E. Cooke, M. D. chapter on *Dyspepsia*.

an amount of the medicines as will occasion but one discharge. But if the uneasiness of the stomach, head-ache, feverishness &c. show that the purgation has not been carried far enough, the dose must be increased. There is a point in the operation of these pills, at which it has never happened to me to see them fail to give relief. This, it is to be the aim of the patient to attain. When he procures sufficient evacuation, without inducing weakness, he very certainly mends. One passage, except in very feeble constitutions, will not often be found sufficient, and three are as many as most constitutions will bear without being weakened. But there may be peculiarities; and hence each case requires careful watching. The patient must sedulously observe his own sensations, and thus learn so to regulate the dose of the purgative as to produce the desired effect.

The length of time necessary to keep up the use of the remedy will vary in each individual case. Often, it will be found requisite to continue it for a long time, and always to recur to it on a recurrence of the symptoms of the disease. This the sedentary student will be obliged oftener to do than those, who, leading more active lives, are less exposed to the exciting causes. But the object being to cure the disease, the patient will not desist, especially as he finds himself more comfortable under the use of the medicine, until it is accomplished. So long as he finds the use of purgatives necessary to his comfort, he will persevere in the employment of them. To stop, and suffer his bowels to become constipated, and the distress of head and stomach to return, would be to make it necessary to commence the course anew. If, therefore, after a long perseverance in the course, and laying it aside, the disorder return, the remedy must be again resumed.

The character of the evacuations is of the first moment. If watery, the medicine is not producing the desired effect. The patient is not relieved. The fulness and uneasiness at his stomach, and head-ache continue—he is weakened by the discharges, and his appetite does not improve. They

must be bilious and consistent. The dose and combination of his medicines must be such as will produce this. The pills already spoken of will not often fail; and if they do, calomel alone may be administered. Five grains of the blue pill will produce very much the effect of the same dose of calomel, and may be given in place of it. Occasionally, where a small dose of the latter article irritates the bowels, and causes watery stools, a large dose of from twenty to sixty grains, will operate beneficially. It is not pretended that such doses are often required in the treatment of dyspepsia; but the purpose being to procure consistent bilious evacuations, the quantity must be so regulated as to accomplish that end.

It will oftener happen, that the mercurial may be laid aside altogether, and the case trusted to the vegetable purgatives. This is perhaps the general rule, after bilious purging has been fully established. The pills above mentioned, without the calomel, are found sufficient to continue the healthy action of the stomach and liver. And when such is the case, their use is preferable to that of those containing calomel. The rule then, may be stated to be, to employ the pills of calomel, rhubarb and aloes until there is a sufficient secretion of healthy bile; and to keep this up by those composed of rhubarb and aloes alone.

But if the passages lose their bilious character, and the medicine ceases to afford relief, the calomel must once more be resumed. It most effectually removes the gastric distress, and all its consequent affections. The "morbid sensibility," of Dr. Johnson, is allayed more promptly by it, than by the blandest aliment. It restores the secretions to the stomach, removes the redness of its villous coat, improves the tongue, and relieves the head. The debility universally complained of by dyspeptic patients, disappears under this purgative treatment. The strength improves daily, with the improving appetite. The patient is surprised to find this effect from remedies which he had accounted debilitating. His mind also grows more active and clear. Like the academic spoken of,

he finds himself more capable of mental exertion after being purged by his medicine. He is no longer obliged to observe the same strict rules of regimen. His digestive powers increase with his appetite, and he is able to eat with impunity what before would have given him only uneasiness.

Under this improved state of things he will not be impatient to discontinue medicine, but will feel inclined to persevere in it until he is entirely restored. If he be a student, whose confinement, and mid-night labors have brought the complaint on, he will be able to lay medicine aside when he commences a more active life. If it be the result of a badly cured fever, he will be relieved when all visceral obstructions are removed. If the result of intemperance in the use of ardent spirits, it will prove incurable, unless the exciting cause be discontinued. And, finally, although cured, it will reappear under the circumstances which first produced it, whatever they may be. The intense student will continue to have weak digestion, and if his bowels are suffered to grow inactive, and his appetite be indulged, he will experience repeated attacks of dyspepsia.

For him, therefore, so long as he is subject to the complaint, the use of medicine will be necessary. The sufferings of the literary invalid are often most intense, and frequently, perhaps I might say generally, for the want of the proper attention to the state of the bowels. *The curse of constipation*, says an eloquent writer, *has driven thousands to madness*. It has embittered the lives of many of the most gifted men, who, conceiving their distress to be the inevitable consequence of their pursuits, or the still more inevitable offspring of disordered minds, sought no relief from medicine. Had Byron followed his excesses by purgatives, and Johnson, Swift, and Cowper preserved a healthy state of their digestive functions, there is no telling how much of the gloom and misanthropy of the first, and the dismal forebodings which filled the minds of the latter three, might have been dispelled. But it is only recently, that the connexion be-

tween the mind and body has been pointed out, in its full extent.

By the judicious use of purgatives, then, experience teaches me, the student may avoid the horrors of dyspepsia. By exercise, a proper diet, hours not too late, and studies not too long pursued without intermission, it may be entirely averted. It is not necessarily incident to a studious life. But where it has been brought on by a neglect of these observances, the greatest relief will follow the employment of these medicines, in the manner already prescribed. The student should never lose sight of the importance of regular alvine evacuations. Whenever his bowels become irregular, it is evidence of disease, which he cannot set about obviating too soon. The use of warm water, in the way of enemas, has its advocates, especially among the French, and experience has often proved its efficacy. But as costiveness is only a symptom of disease, it will not generally be sufficient merely to remove it;—the morbid condition which gives rise to it, must be corrected. Hence purgatives are demanded, particularly mercurial purgatives, which restore the secretions of the liver, stomach and bowels, and thus obviate costiveness more effectually by removing its cause.

By the earlier writers on this disease, various preparations were recommended as creating appetite, improving digestion, correcting acidity, &c., which, no doubt, afforded relief by their purgative effect; as the *elixir proprietatis tartarizatus*,* extolled by Paracelsus, and the *vinum aloeticum alkalinum*, mentioned by Barry. The last named writer observes, “where there is either a defect, or inactivity of the bile, medicines which emulate that strong, natural digestive, and warm, bitter aloetic purgatives, are found very serviceable.”† The preparations of antimony also operated as purgatives, and were beneficial, or injurious, as they produced gentle, or profuse

* “*Elixir of Property to Man*, so called by its author, Paracelsus, on account of its extraordinary properties—a tincture of aloes, myrrh and saffron, to which tartaric and sulphuric acid were added by subsequent pharmacopologists—a warm purgative, and stomachic, adapted to cold, languid habits.

† *Treatise on Digestions*. London, 1759. p. 42

purging. Hence the comparison of Zuinger, that "antimony is like Scanderbeg's sword, which is either good or bad, strong or weak, as the party is that prescribes or useth it; a worthy medicine, if it be rightly applied to a *strong man*, otherwise poison." So "salt and salt-petre" are classed by Burton among the *purgers* of black cholera.* "*Sene*," says the same learned writer, "is in the middle of violent and gentle *purgers downward*, hot, in the second degree, dry in the first. *Brassivola* calls it a wonderfull herb against melancholy; it *scowres the blood*, illightens the spirits, shakes off sorrow; a most profitable medicine, &c." A gentleman of sedentary habits, seriously troubled with indigestion, headache &c., used molasses in his water, as a common drink, and was much improved. It acted as a laxative. Rhubarb, chewed through the day, so as to keep the bowels soluble, has long been known as one of the most popular remedies in dyspepsia. In fact, the importance of correcting costiveness is admitted by all writers on the subject, but the means have not generally been pointed out with sufficient clearness.

To be salutary, the purging must be of the description already mentioned, and it must be continued. Bilious evacuations must be kept up, by medicine, if diet will not suffice. The patient will judge from his feelings, whether the discharges are of the proper character. He will not mend, unless they be bilious and consistent. A mere looseness is not sufficient. This frequently alternates with constipation, and the patient, so far from being relieved, feels worse when his bowels are in this state.†

The following case is given as illustrative of the character of the disease, and of the efficacy of the foregoing plan of treatment.

A student of medicine, aged eighteen, who had led an active life in the country, entered upon his first course of lectures in the fall of 1823. He had left a region of country

* Anat. Melan. vol. ii. Part 2. Sec. 4. Mem. 2. Subs. 2.

† Barry, in the work already quoted, says "persons of the strongest constitution, are most apt to be costive."

where bilious fever was prevailing, having attended to a number of cases, and being under the influence of the miasmatic poison, manifested in chronic inflammation of his eyes. Otherwise his health was perfect. He attended nine lectures daily, which occupied all the hours of daylight, and consequently he neglected exercise. His studies were continued until eleven o'clock at night. His appetite was good, and he indulged it. Pursuing this course, in a month he became dyspeptic. His appetite declined, bowels became constipated, with head-ache, depression of spirits, and the whole train of the usual nervous symptoms. He took, occasionally, a pill of calomel, rhubarb and aloes, with decidedly good effects, but not being aware of the advantage of continuing the practice, and fearing something from the habitual use of calomel, he abandoned it, and suffered his bowels to become obstinately costive. His sufferings during the winter were very great, and he returned to his home in the spring much wasted in flesh, and with all the symptoms of confirmed indigestion.

Much of his time, during the spring and summer, he spent on horse-back in the country, and his health improved. But he did not recover his flesh, and his digestion remained imperfect. For the most part, his bowels were constipated, and he suffered much from head-ache. In the fall of 1824, he renewed his attendance upon lectures, in one of the eastern schools of medicine. Soon he found his malady growing worse, under the confinement, and mental application. His stomach digested nothing perfectly—his strength failed—his spirits were more than ever depressed—he experienced all the horrors of dyspepsia. In December he was attacked by bilious fever, for which he took six grains of calomel every night for a week, at which time he was relieved of fever. He convalesced rapidly, and for some time was free from dyspeptic symptoms. But his infirmity, constipation, returned, and gradually, his former complaints.

He commenced the practice of physic in the spring, and during the warm season was but little troubled. The winter

of 1825, like the preceding, he spent in laborious study, and all his former symptoms returned. Experience had taught him the benefits of calomel, and he took it several times in the course of the winter, always with the effect of relieving his stomach and head, improving his appetite and digestion, and the clearness of his mind. He resumed the practice of physic in the spring; but regular exercise on horse-back, and a regulated diet, did not entirely remove his complaint. He experienced repeated exacerbations of it, and most of his time he spent with head-ache, acidity, and other symptoms of gastric disturbance. Things continued thus until 1829, when he was alarmed by the appearance of a new symptom—*palpitation of heart*. When overtaken by this, he was leading a very active life.

He now resolved upon a regular course of purgative medicine, which, hitherto he had tried but impartially. The *dieting* system of Johnson he had tried in vain. The mineral acids, and quinine had only aggravated his sufferings, and the alkalis and absorbents had given but temporary relief from acidity. If, for a few days, he seemed to improve upon a spare diet, he suddenly became worse again, without any evident cause. And, while there were intervals of health, in which he was able to indulge his appetite with freedom, there were periods again when the most simple diet oppressed his stomach, and induced head-ache and fever. In June, he began to take pills, of the composition already mentioned—calomel, rhubarb and aloes, of each two grains. He was costive; had tenderness of the *epigastrium*, with pain on pressure; palpitations, increased by exercise, most troublesome after breakfast and dinner, and subsiding late in the evening; pain in the left arm, at the termination of the *deltoid* muscle; and burning of the palms of his hands and soles of his feet. *Blue pill*, which he had taken for several nights previously, had not moved his bowels, and he was not benefitted by it. Three days after taking the first pills of calomel, rhubarb and aloes, he found his digestion

better, head-ache, and palpitation of heart less. Continued these pills. One, at first, produced the desired effect.

July 5th. Much better—cardiac symptoms nearly gone—strength increasing—complexion improved—no head-ache—appetite good—food digests well. Pill produced three evacuations.

8th. Pill operated but once. More palpitation, head-ache and tenderness in the *epigastrium*.

13th. Pill operated twice. Symptoms all improved—digestion much more perfect.

21st. Pills acted three times. For several days no gastric disorder, or palpitation.

22d. Pills slow, and insufficient—some soreness of tonsils, and *submaxillary* glands. Pills of rhubarb and aloes substituted.

31st. Improvement of all the symptoms—appetite and digestion good. Five pills, containing rhubarb and aloes, each 24 grains, operate three times. Discharges bilious and consistent. Continues these pills throughout August. Finds when they act freely, bringing away bile, he is clear of dyspepsia.

September 1st. Considers himself relieved, but takes pills of rhubarb and aloes occasionally, when bowels disposed to constipation.

During the winter which followed, he chewed rhubarb when torpor of bowels made a laxative necessary, and remained free from complaint. In the warm weather he drank the water of a *salino-sulphur* spring, which kept his bowels open; and it should be stated, that, although his studies during the spring and summer were of the most laborious kind, and his habits sedentary, he yet continued to enjoy good health. And by returning to the use of the pills as often as indigestion, costiveness, &c., indicated their necessity, his health has continued good, under the same circumstances—namely, close application to study, and neglect of exercise—which originally induced the complaint.

As promoting an open state of the bowels, many of the

mineral waters may be recommended in this disease. The Harrodsburg, Blue Lick, and Olympian Springs, in this State, and the Sulphur Spring, near Nashville, have been analysed by several chemists.* The three latter are very similar in composition. Their principal ingredients are sulphuretted hydrogen, and muriate of soda and lime which render the waters diaphoretic, diuretic, and purgative. Three or four tumbler's full, in the morning before breakfast, operate promptly upon the bowels of most persons. At any other time of the day, the effect of the water is more apt to be a free perspiration, or diuresis. The purgation, though inclining to watery, is healthy. The appetite, strength and digestion improve under it. The Harrodsburg Springs have more celebrity than either of the others. The accommodations provided for visitors are extensive, and well ordered, and their healthy situation attracts great numbers of persons during every warm season. Their chief ingredient is sulphate of magnesia, which imparts its characteristic bitter taste to the water. One spring contains, in addition, a trace of iron, and some sulphuretted hydrogen. The other ingredients are in small quantities, and not active. Of the usefulness of these waters in stomach complaints, the most satisfactory evidence has been afforded.

Antacids are popular remedies in dyspepsia. Of those which act specifically in this way, I prefer bi-carb. soda, as being prompt, not disagreeable to the taste, and liberating a gas which affords a grateful stimulus to the stomach. Magnesia is most recommended by authors. It forms soluble salts with the acid in the *primæ viæ*, and thus tends to counteract costiveness. Lime water is astringent, but effectually neutralizes the acid in the stomach. Bi-carb. potassa is only inferior to soda, in being less pleasant to the taste. They are both used, with one of the vegetable acids, in the form of an effervescing draught, in that condition of the disease attended with obstinate vomiting, or rejection of food from

* See an account of the Mineral Springs of Kentucky, in Vol. V. of the *Transylvania Journal of Medicine*.

the stomach soon after eating. Riverius acquired great fame and riches by the use of *salt of wormwood*,* saturated with the juice of lemons, and taken in the act of effervescence, which he long kept a secret. But whatever may be the value of these articles as temporary expedients, they yield to the pills already described, which remove the morbid state of the stomach upon which these symptoms depend. For intractable vomiting, no remedy known to me is so effectual as calomel, whether attending dyspepsia, or resulting from any other cause.

Tonics are rarely, if ever, demanded in the disease as it appears in this country. The stomach, it has been shown, is in a state bordering upon inflammation,† and medicines are clearly indicated which correct this by increasing its secretions. If tonics be administered while the tenderness of the *epigastrium*, furred tongue, and head-ache continue, all these symptoms, with every other form of suffering attendant upon the disease, will be made worse. After the secretions have been restored by suitable means, they are perhaps harmless, but there is then no need for them;—the patient recovers without them.

If indulgence of the appetite is not, of itself, a cause of dyspepsia, it unquestionably often conspires with other causes to produce it. The gastric juice can dissolve only a certain quantity of food. All that is taken beyond its power to digest, remains in the stomach an irritating mass. Stimulants may augment the digestive power for a time, but debility must follow the over-exertion, and the stomach will be more illy prepared for the succeeding meal, in consequence of the undue effort required for the last. Thus, weakened by over-action, and irritated by the undigested food, the stomach becomes deranged. If, among people whose active habits create a natural appetite, and insure a sound digestion, this state of things be seldom observed, it is not of rare occurrence among the sedentary classes—particularly the sedentary stud-

* Carbonate of potash.

† Beaumont's Experiments. The sensations at the stomach evince the same,

ious, who enfeeble the stomach by the inordinate exercise of the brain. Let such beware, how they violate one of the laws of nature, which forbids the exercise of two great functions of the body at the same time. It may be repeated, the student must be a temperate eater.

It is difficult to prescribe rules of diet suited to each individual case. Dr. Rush supposed there were relations between various aliments, such as exist between certain sounds, colors, and odors, and which caused some substances to harmonize and produce agreeable effects upon the stomach, as certain sounds and colors do upon the ear and eye, and the reverse. "For example," he remarks, "bread and meat, meat and salt, the alkalescent meats and acescent vegetables, all harmonize with each other upon the tongue; while fish and flesh, butter and raw onions, fish and milk, when combined, are all offensive to a pure and healthy taste."* Hence, certain aliments taken at the same time give offence to the stomach, which, alone, would be agreeable. When an article of diet is grateful to the taste, but afterwards disagrees with the stomach, it may be occasioned by some other kind of food, or some drink, which does not harmonize with the offending article. Thus, many articles digestible in themselves are made to offend, by being associated in the stomach with others of an unsuitable nature; and a moderate meal may occasion uneasiness, from consisting of articles of aliment not related to each other. This is a very common cause of the uneasiness, and sense of indigestion which many persons experience after a meal; which makes it necessary for all who are in any degree troubled with weak digestion, to consider the compatibilities, in reference to their own cases, of the various articles of diet. It shows the advantage of simplicity in diet, for in a great variety, there will scarcely fail to be some which disagree with each other, and consequently with the stomach. But even in a very limited number, incompatibilities exist. A person who has long been in the habit of drinking milk at dinner, has found it

**Medical Inquiries and Observations*, Vol. I. p. 280.

necessary to discontinue it when he takes meat, in consequence of head-ache, which he has observed to follow their use at the same time. Most persons find meat dinners to digest better, when they take a certain quantity of acid fruit, pickles, or a glass of wine. An individual subject to indigestion, thought a lump of sugar, after dinner, enabled his stomach to perform its office better. Sir W. Philip mentions a man who could not digest his toast, unless it was soaked in melted butter. A person, a native of the western country, accustomed to the use of *corn* bread at dinner, cannot eat wheaten bread with his meat, without a considerable feeling of disgust. Pastry sets badly on the stomachs of many persons in good health, after a dinner of animal food, when the latter alone would be easily digested. An acquaintance, a man of inactive life, and rather feeble constitution, is in the practice of eating as much bacon and cabbage, at dinner, as the stoutest laboring men, and without the least symptom of indigestion. But he eats nothing else, except corn bread, which, with a single cup of coffee, forms his breakfast and supper. The whole of the energy of his stomach is thus reserved for his principal meal, which, by such management, it is able to digest.

The principle of Dr. Rush, therefore, if not susceptible of universal application, on account of the endless individual peculiarities, which render the combinations of aliments which agree with some, displeasing to others, may, nevertheless, be applied by each individual to his own case. The pleasure of taking food depends upon our conformance to it. Whatever may be the *gust* with which a mass of aliments is swallowed which do not harmonize with each other in the stomach, loathing and disgust, more or less intense, as the indigestion is greater or less, will follow the ill-sorted meal. But if, on the contrary, the articles be selected with reference to their known compatibility, a prompt digestion diffuses energy and health throughout the body. The choice of food must be made by each one for himself. *Idiosyncrasies* must be consulted. Experience is the only infallible

guide. That is the proper diet for a man, which is easiest and soonest digested, which oppresses the stomach least while the process is going on, and which insures to him the most health and strength, whether his object be the prevention or cure of dyspepsia;—a general rule, indeed, but I am not sure that directions more specific can be given.

While such is the principle by which each one must be governed in the selection of his diet, there are certain aliments more easy of digestion than others, and consequently more appropriate for those who are predisposed to dyspepsia. For all desirable information on this interesting topic, the reader is referred to Darwin's *Zoonomia*, Cullen's *Materia Medica*, Philip on Indigestion, Johnson on the Stomach, and the more recent works of Paris and Beaumont, which abound in valuable practical details. Animal food is considered more digestible than vegetable, but it cannot be universally prescribed. If the appetite of the patient refuse it, it will not be digested by his stomach. Simplicity in diet is one of the most important rules, and the necessity of masticating it well, has also been often insisted upon. Hippocrates remarks, *that such as live to a great age have many teeth*;^{*} and it has been supposed, that the sound digestion, the consequence of previous thorough mastication, was the cause of the longevity. Probably it is the reverse, and that the teeth continue sound because the constitution is good. But of the advantage of eating slowly, and chewing the food well, the experience of every one will soon teach him, especially if he labor under weak digestion.

Animal food once a day, for the student, or the inactive, is sufficient. More is excess. Milk, for the same class, is preferable to tea and coffee, at least, in their youth. The young need no artificial stimulus. Homer seems to have entertained a high opinion of the virtues of this aliment. The Hippomolgi, who were sustained on milk, he characterizes, as "blest with length of days, peaceful, just and wise." It is nutritive, unstimulating, and agreeable to most young per-

^{*} Lib. 2. Sect. vi. *Eped.*

sons. Animals never increase their size so rapidly, as when their only nourishment is milk, from which it would appear to be one of the most nutritious of substances.

If, confining himself to a simple diet, the person still be troubled with indigestion, his case is one in which the purgative pills will operate beneficially. And the importance of diet in the management of dyspepsia, has been less urged in this paper, because it has been found, that under the use of these pills, so cautious a regimen is not required. When under their well regulated influence, viz. while his bowels are daily moved, and his passages bilious, and sufficiently copious, he may indulge in the diet of healthy people with less inconvenience, than, in the neglect of his bowels, he could upon the simplest regimen.

It is remarkable, that some of the ancients, so far from deeming strict regimen beneficial to health, recommended an occasional excess, as salutary. Rhasis taught that there was nothing better for melancholy; and that he who indulged in society and drink—who was able to afford the use of wine, needed no other medicine. “His countryman Avicenna,” says Burton, “proceeds farther yet, and will have him that is troubled in mind, or melancholy, not to drink only, but now and then to be drunk. Magninus will have them to be so once a month at least, and gives his reasons for it, *scours the body by vomit, urine, sweat, of all manner of superfluities, and keeps it clean*. Of the same mind is Seneca, the philosopher, in his book *de tranquill. lib. 1. c. 15: nonnunquam, ut in aliis morbis, ad ebrietatem usque veniendum: curas deprimet; tristitiæ meditur*; it is good sometimes to be drunk: it helps sorrow, depresseth cares; and so concludes his tract with a cup of wine. “But” adds this author, with the emphasis of a christian philosopher, “these are epicurean tenents, tending to looseness of life, luxury and atheism, maintained alone by some heathens, dissolute Arabians, profane Christians, and are exploded by Rabbi Moses, Guliel. Placentius, Valescus de Taranta, and most accurately ventilated by Jo. Sylvaticus, a late writer and physician of Mil-

lan, *Med. cont. Cap.* 14. where you shall find this tenent copiously confuted.”*

Writers are not agreed as to the effect of sleep upon the process of digestion. A majority follow Bacon, who recommends a nap after dinner.† But a number advise gentle exercise rather. All agree in condemning violent exertion of either mind or body after a full meal, which all experience, not less than physiology, proclaims to be injurious. Remarkable relief is derived, says Barry, in indigestion, from exercise and sunshine, which promote the insensible perspiration.‡ Beaumont found digestion essentially promoted in the case of his subject, by exercise sufficient to produce moderate perspiration, which, he remarks, “increases the secretions from the gastric cavity, and produces an accumulation of a limpid fluid, within the stomach, slightly acid, and possessing the solvent properties of the gastric juice, in an inferior degree.”|| To many, a short sleep after dinner, is unequivocally useful. Others rise from it unrefreshed, with head-ache, fever, and a sense of gastric fulness. In old age, as remarked by Bacon, it is more necessary. Perhaps young persons, unless seriously oppressed during the stage of active digestion, would do well to reserve this aid for this period of life.

Of the value of exercise, both in the cure and prevention of dyspepsia, little need here be said. It is admitted by all. But it must be agreeable, to be useful. The mind must be amused, or the exercise is but irksome toil. Hence the great efficacy of a voyage, or travel, where new and exciting objects are continually presented; of rural employments, which solace the feelings, while they prompt to activity; of the rambles of the naturalist, amid the beauties and wonders of creation, “enjoying the fragrance of flowers, not plucked, but inhaled in the open air,” which Bacon commends as among the means of promoting long life; and finally, of field sports, which exercise a truly medicinal influence over the

* *Anat. Melan.* vol. ii. p. 128.

† *On Digestion*, p. 200.

‡ *Hist. Vit et Mort.* p. 404.

|| *Experiments, &c.* p. 94.

body and mind. "The follower of hounds," says Reid, "is on the road to health, although he may not be in search of it."* Accustomed to habits of activity, almost living on horse-back, with keen appetites and vigorous digestion, the young men of this country often become the victims of dyspepsia, soon after engaging in the study of their profession. The change is too sudden for their systems. This, beyond question, may be added to the causes of this complaint. Exercise in this case is the natural remedy.

Finally; it has been long observed, that, in persons who live temperately, this disease often ceases between the years of forty and fifty; and they thus reach that *viridis senectus*, so much desired, so seldom attained, in which philosophy and religion easily subdue any remaining passions, and which closes at length the last period, like the evening of a summer's day. Let such, therefore, as are afflicted with it give heed to the following advice of Laurentius, who, in a few sentences, not the less forcible, perhaps, for being old-fashioned and homely, sums up the rules for the conduct of the invalid. "I have read," says he, "that, in old diseases which have gotten the upper hand or an habit, the manner of living is to more purpose, then whatsoever can be drawn out of the most pretious boxes of the apothecaries. This diet, as I have said, is not only in choice of meat and drink, but of all those other non-natural things. Let air be clear and moist most part: diet moistning, of good juyce, easie of digestion, and not windie: drink clear, and well brewed, not too strong nor too small. Exercise not too remisse, nor too violent. Sleep a little more then ordinary. Excrements daily to be avoided by art or nature; and, above the rest, to avoid all passions and perturbations of mind."†

* On Nervous Diseases. Ess. 25, p. 188.

† Anat. Mel. vol. ii, p. 117.

